

**POWER OF ATTORNEY  
AND  
CORRESPONDENCE ADDRESS  
INDICATION FORM**

<b>Application Number:</b>	10/553,028
<b>Filing Date:</b>	October 11, 2005
<b>First Named Inventor:</b>	Michael P. BELMARES
<b>Art Unit:</b>	1654
<b>Examiner Name:</b>	Unknown
<b>Attorney Docket Number:</b>	ARBV:003US

**I hereby revoke all previous powers of attorney given in the above-identified application.**

☐ A Power of Attorney is submitted herewith.

**OR**

☒ I hereby appoint the practitioners associated with the Customer Number: 32425

as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

Please recognize or change the correspondence address for the above-identified application to:

☒ The address associated with Customer Number: 32425

**OR**

☐ Firm or  
Individual Name

Address

City

State

Zip

Country

Telephone

Email

I am the:

☐ Applicant/Inventor.

☒ Assignee of record of an interest. See 37 CFR 3.71.  
*Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)*

**SIGNATURE OF APPLICANT OR ASSIGNEE OF RECORD**

Signature

Name

Title and Company

Arbor Vita Corporation

Telephone

Date

04/24/07

408

585 3902

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

☐ \*Total of \_\_\_\_\_ forms are submitted.

**STATEMENT UNDER 37 CFR 3.73(b)**Applicant/Patent Owner: Michael P. BELMARES, Peter S. LU and Jonathan David GARMANApplication No./Patent No. 10/553,028 Filed/Issue Date: October 11, 2005Entitled: MODULATION OF MUC1 MEDIATED SIGNAL TRANSDUCTIONArbor Vita Corporation, a corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership,  
university, government agency, etc.)

states that it is:

1. ☐ the assignee of the entire right, title, and interest; or
2. ☒ an assignee of less than the entire right, title and interest.

in the patent application/patent identified above by virtue of either:

- A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

**OR**

- B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

2. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

3. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

- ☐ Additional documents in the chain of title are listed on a supplemental sheet.
- ☐ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being submitted for recordation pursuant to 37 CFR 3.11.  
[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Monica De La Paz  
SignatureJune 11, 2008

Date

Monica A. De La Paz, Reg. No. 54,662

Printed or Typed Name

(512) 474-5201

Telephone Number

Attorney

Title

ARBV:003US

File Code

ASSIGNMENT

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, the undersigned, do hereby:

SELL, ASSIGN AND TRANSFER to ARBOR VITA CORPORATION (the "Assignee"), having a place of business at 772 Lucerne Drive, Sunnyvale, California 94085, their entire right, title and interest for the United States and all foreign countries in and to any and all improvements which are disclosed in the application for United States Letters Patent, Serial No. **10/553,028** which has been filed on **October 11, 2005** and is entitled "**MODULATION OF MUC1 MEDIATED SIGNAL TRANSDUCTION**", is a 371 Nationalization of PCT/US2004/011195 filed 04/12/04 which claims priority to US Provisional Application No. 60/524,188 filed November 21, 2003, which claims priority to US Provisional Application No. 60/502,111 filed September 11, 2003, which claims priority to US Provisional Application No. 60/475,595 filed June 4, 2003, which claims priority to US Provisional Application No. 60/467,728 filed May 2, 2003, which claims priority to US Provisional Application No. 60/462,111 filed April 11, 2003, such application and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such improvements; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such improvements; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such improvements to the Assignee;

WARRANT AND COVENANT that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been or will be made to others by the undersigned, and that the full right to convey the same as herein expressed is possessed by the undersigned;

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such improvements; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such improvements and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such improvements in the Assignee, and for securing, maintaining and enforcing proper patent protection for such improvements;

TO BE BINDING on the heirs, assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

Signature: Michael P. Belmares

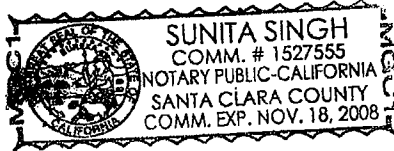
Name: Michael P. Belmares

Date: 4/24/07

STATE OF CALIFORNIA  
COUNTY OF SANTA CLARA

BEFORE ME, the undersigned authority, on this 24<sup>th</sup> day of APRIL, 2007 personally appeared Michael P. Belmares, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same of his/her own free will for the purposes and consideration therein expressed.

[SEAL]



[Signature]  
Notary or Consular Officer

Signature: [Signature]

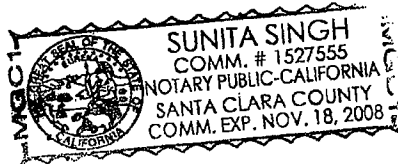
Name: Peter S. Lu

Date: 4/24/07

STATE OF CALIFORNIA  
COUNTY OF SANTA CLARA

BEFORE ME, the undersigned authority, on this 24<sup>th</sup> day of APRIL, 2007 personally appeared Peter S. Lu, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same of his/her own free will for the purposes and consideration therein expressed.

[SEAL]



[Signature]  
Notary or Consular Officer

Signature: \_\_\_\_\_

Name: Jonathan David Garman

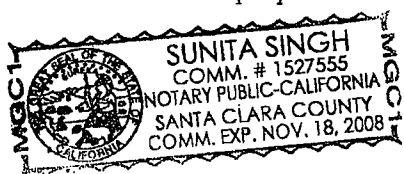
Date: \_\_\_\_\_

4/24/2007

STATE OF California  
COUNTY OF Santa Clara

BEFORE ME, the undersigned authority, on this 24<sup>th</sup> day of APRIL, 2007 personally appeared Jonathan David Garman, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same of his/her own free will for the purposes and consideration therein expressed.

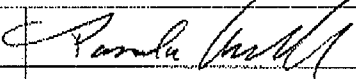
[SEAL]



Notary or Consular Officer: \_\_\_\_\_

*[Signature]*

FULBRIGHT & JAWORSKI L.L.P.  
600 Congress Avenue, Suite 2400  
Austin, Texas 78701


<b>POWER OF ATTORNEY AND CORRESPONDENCE ADDRESS INDICATION FORM</b>	Application Number:	10/553,028		
	Filing Date:	October 11, 2005		
	First Named Inventor:	Michael P. BELMARES		
	Art Unit:	1654		
	Examiner Name:	Unknown		
	Attorney Docket Number:	ARBV:003US		
<b>I hereby revoke all previous powers of attorney given in the above-identified application.</b>				
<input type="checkbox"/> A Power of Attorney is submitted herewith. <b>OR</b> <input checked="" type="checkbox"/> I hereby appoint the practitioners associated with the Customer Number: <span style="border: 1px solid black; padding: 2px;">32425</span> as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.				
Please recognize or change the correspondence address for the above-identified application to: <b>OR</b> <input checked="" type="checkbox"/> The address associated with Customer Number: <span style="border: 1px solid black; padding: 2px;">32425</span>				
<input type="checkbox"/> Firm or Individual Name				
Address				
City		State		Zip
Country				
Telephone		Email		
I am the: <input type="checkbox"/> Applicant/Inventor. <input checked="" type="checkbox"/> Assignee of record of an interest. See 37 CFR 3.71. <i>Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)</i>				
<b>SIGNATURE OF APPLICANT OR ASSIGNEE OF RECORD</b>				
Signature				
Name	PAMELA D. ARINIELLO			
Title and Company	ASSOCIATE GENERAL COUNSEL FOR INTELLECTUAL PROPERTY Dana-Farber Cancer Institute, Inc.		Telephone	617-632-5492
Date	5.10.07			
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.				
<input type="checkbox"/> *Total of _____ forms are submitted.				

Dana-Farber Cancer Institute, Inc.  
Certificate of Corporate Authority

I, Richard S. Boskey, Assistant Secretary of Dana-Farber Cancer Institute, Inc., a Massachusetts not-for-profit corporation with its usual place of business at 44 Binney Street in Boston, Massachusetts (the "Corporation"), hereby certify that Pamela D. Ariniello, acting in her capacity as Associate General Counsel for Intellectual Property of the Corporation, is authorized to act on behalf of and bind the Corporation as to the matters specified below:

Copyright, Patent and Trademark Applications and Related Documents

Executed this 31<sup>st</sup> day of March, 2006.

A handwritten signature in dark ink, appearing to read "R. S. Boskey", written over a horizontal line.

Richard S. Boskey  
Assistant Secretary  
Dana-Farber Cancer Institute, Inc.

**STATEMENT UNDER 37 CFR 3.73(b)**Applicant/Patent Owner: Donald W. KUFEApplication No./Patent No. 10/553,028 Filed/Issue Date: October 11, 2005Entitled: MODULATION OF MUC1 MEDIATED SIGNAL TRANSDUCTIONDana-Farber Cancer Institute, Inc., a corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership,  
university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest; or
2. ☒ an assignee of less than the entire right, title and interest.

in the patent application/patent identified above by virtue of either:

- A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, **or for which a copy thereof is attached.**

**OR**

- B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

2. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

3. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.☐ Additional documents in the chain of title are listed on a supplemental sheet.

- ☐ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being submitted for recordation pursuant to 37 CFR 3.11.  
[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.



Signature

June 11, 2008

Date

Monica A. De La Paz, Reg. No. 54,662

Printed or Typed Name

(512) 474-5201

Telephone Number

Attorney

Title

ARBV:003US

File Code



ASSIGNMENT

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, the undersigned, does hereby:

SELL, ASSIGN AND TRANSFER to DANA-FARBER CANCER INSTITUTE, INC. (the "Assignee"), having a place of business at 44 Binney Street, Boston, Massachusetts 02115, their entire right, title and interest for the United States and all foreign countries in and to any and all improvements which are disclosed in the application for United States Letters Patent, Serial No. 10/553,028 which has been filed on October 11, 2005 and is entitled "MODULATION OF MUC1 MEDIATED SIGNAL TRANSDUCTION", is a 371 Nationalization of PCT/US2004/011195 filed April 12, 2004 which claims priority to US Provisional Application No. 60/524,188 filed November 21, 2003, which claims priority to US Provisional Application No. 60/502,111 filed September 11, 2003, which claims priority to US Provisional Application No. 60/475,595 filed June 4, 2003, which claims priority to US Provisional Application No. 60/467,728 filed May 2, 2003, which claims priority to US Provisional Application No. 60/462,111 filed April 11, 2003, such application and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such improvements; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such improvements; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such improvements to the Assignee;

WARRANT AND COVENANT that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been or will be made to others by the undersigned, and that the full right to convey the same as herein expressed is possessed by the undersigned;

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such improvements; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such improvements and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such improvements in the Assignee, and for securing, maintaining and enforcing proper patent protection for such improvements;

TO BE BINDING on the heirs, assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

Signature: Donald W. Kufe Date: 5/8/07  
Name: Donald W. Kufe

STATE OF MA  
COUNTY OF Suffolk

BEFORE ME, the undersigned authority, on this 8 day of May, 2007 personally appeared Donald W. Kufe, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same of his/her own free will for the purposes and consideration therein expressed.

J. Ann Barry  
Notary or Consular Officer Exp 08-08-08

[SEAL]

FULBRIGHT & JAWORSKI L.L.P.  
600 Congress Avenue, Suite 2400  
Austin, Texas 78701

**POWER OF ATTORNEY  
AND  
CORRESPONDENCE ADDRESS  
INDICATION FORM**

<b>Application Number:</b>	10/553,028
<b>Filing Date:</b>	October 11, 2005
<b>First Named Inventor:</b>	Michael P. BELMARES
<b>Art Unit:</b>	1654
<b>Examiner Name:</b>	Unknown
<b>Attorney Docket Number:</b>	ARBV:003US

**I hereby revoke all previous powers of attorney given in the above-identified application.**

☐ A Power of Attorney is submitted herewith.

**OR**

☒ I hereby appoint the practitioners associated with the Customer Number: 32425

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**OR**

☐ Firm or  
Individual Name

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City

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Email

I am the:

☐ Applicant/Inventor.

☒ Assignee of record of an interest. See 37 CFR 3.71.  
*Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)*

**SIGNATURE OF APPLICANT OR ASSIGNEE OF RECORD**

Signature

Name

Title and Company

Telephone

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

☐ \*Total of \_\_\_\_\_ forms are submitted.

**STATEMENT UNDER 37 CFR 3.73(b)**Applicant/Patent Owner: Albert A. JECMINEK, Naoki AGATA, and Surender KHARBANDAApplication No./Patent No. 10/553,028Filed/Issue Date: October 11, 2005Entitled: MODULATION OF MUC1 MEDIATED SIGNAL TRANSDUCTIONGenzyme Corporation

(Name of Assignee)

, a corporation(Type of Assignee, e.g., corporation, partnership,  
university, government agency, etc.)

states that it is:

1. ☐ the assignee of the entire right, title, and interest; or
2. ☒ an assignee of less than the entire right, title and interest.

in the patent application/patent identified above by virtue of either:

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**OR**

- B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

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Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

2. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

3. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at  
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- ☐ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being submitted for recordation pursuant to 37 CFR 3.11.  
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The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Monica De La Paz

Signature

June 11, 2008

Date

Monica A. De La Paz, Reg. No. 54,662

Printed or Typed Name

(512) 474-5201

Telephone Number

Attorney

Title

ARBV:003US

File Code

ASSIGNMENT

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, the undersigned, do hereby:

SELL, ASSIGN AND TRANSFER to GENZYME CORPORATION (the "Assignee"), having a place of business at 500 Kendall Street, Cambridge, Massachusetts 02142, their entire right, title and interest for the United States and all foreign countries in and to any and all improvements which are disclosed in the application for United States Letters Patent, Serial No. **10/553,028** which has been filed on **October 11, 2005** and is entitled "**MODULATION OF MUC1 MEDIATED SIGNAL TRANSDUCTION**", is a 371 Nationalization of PCT/US2004/011195 filed April 12, 2004 which claims priority to US Provisional Application No. 60/524,188 filed November 21, 2003, which claims priority to US Provisional Application No. 60/502,111 filed September 11, 2003, which claims priority to US Provisional Application No. 60/475,595 filed June 4, 2003, which claims priority to US Provisional Application No. 60/467,728 filed May 2, 2003, which claims priority to US Provisional Application No. 60/462,111 filed April 11, 2003, such application and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such improvements; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such improvements; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such improvements to the Assignee;

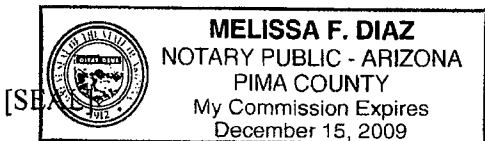
WARRANT AND COVENANT that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been or will be made to others by the undersigned, and that the full right to convey the same as herein expressed is possessed by the undersigned;

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such improvements; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such improvements and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such improvements in the Assignee, and for securing, maintaining and enforcing proper patent protection for such improvements;

TO BE BINDING on the heirs, assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

Signature: Albert A. Jecminek Date: 4-4-07  
Name: Albert A. Jecminek  
STATE OF Arizona  
COUNTY OF Pima

BEFORE ME, the undersigned authority, on this 4 day of April, 2007 personally appeared Albert A. Jecminek, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same of his/her own free will for the purposes and consideration therein expressed.



[Signature]  
Notary or Consular Officer

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Name: Naoki Agata

STATE OF \_\_\_\_\_  
COUNTY OF \_\_\_\_\_

BEFORE ME, the undersigned authority, on this \_\_\_\_ day of \_\_\_\_\_, 2007 personally appeared Naoki Agata, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same of his/her own free will for the purposes and consideration therein expressed.

\_\_\_\_\_  
Notary or Consular Officer

[SEAL]

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name: Surender Kharbanda

STATE OF \_\_\_\_\_  
COUNTY OF \_\_\_\_\_

BEFORE ME, the undersigned authority, on this \_\_\_\_ day of \_\_\_\_\_, 2007  
personally appeared Surender Kharbanda, known to me to be the person whose name is  
subscribed to the foregoing instrument and acknowledged to me that he/she executed the same of  
his/her own free will for the purposes and consideration therein expressed.

\_\_\_\_\_  
Notary or Consular Officer

[SEAL]

FULBRIGHT & JAWORSKI L.L.P.  
600 Congress Avenue, Suite 2400  
Austin, Texas 78701

ASSIGNMENT

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, the undersigned, do hereby:

SELL, ASSIGN AND TRANSFER to GENZYME CORPORATION (the "Assignee"), having a place of business at 500 Kendall Street, Cambridge, Massachusetts 02142, their entire right, title and interest for the United States and all foreign countries in and to any and all improvements which are disclosed in the application for United States Letters Patent, Serial No. **10/553,028** which has been filed on **October 11, 2005** and is entitled "**MODULATION OF MUC1 MEDIATED SIGNAL TRANSDUCTION**", is a 371 Nationalization of PCT/US2004/011195 filed April 12, 2004 which claims priority to US Provisional Application No. 60/524,188 filed November 21, 2003, which claims priority to US Provisional Application No. 60/502,111 filed September 11, 2003, which claims priority to US Provisional Application No. 60/475,595 filed June 4, 2003, which claims priority to US Provisional Application No. 60/467,728 filed May 2, 2003, which claims priority to US Provisional Application No. 60/462,111 filed April 11, 2003, such application and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such improvements; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such improvements; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such improvements to the Assignee;

WARRANT AND COVENANT that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been or will be made to others by the undersigned, and that the full right to convey the same as herein expressed is possessed by the undersigned;

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such improvements; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such improvements and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such improvements in the Assignee, and for securing, maintaining and enforcing proper patent protection for such improvements;



TO BE BINDING on the heirs, assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Name: Albert A. Jecminek

STATE OF \_\_\_\_\_  
COUNTY OF \_\_\_\_\_

BEFORE ME, the undersigned authority, on this \_\_\_\_ day of \_\_\_\_\_, 2007 personally appeared Albert A. Jecminek, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same of his/her own free will for the purposes and consideration therein expressed.

\_\_\_\_\_  
Notary or Consular Officer

[SEAL]

Signature: Naoki Agata Date: December 4, 2007  
Name: Noaki Agata

BEFORE ME, the undersigned authority, on this 4<sup>th</sup> day of December, 2007 personally appeared Naoki Agata, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same of his/her own free will for the purposes and consideration therein expressed.

Naoki Agata  
Witness

Signature: \_\_\_\_\_  
Name: Surender Kharbanda

Date: \_\_\_\_\_

STATE OF \_\_\_\_\_  
COUNTY OF \_\_\_\_\_

BEFORE ME, the undersigned authority, on this \_\_\_\_ day of \_\_\_\_\_, 2007 personally appeared Surender Kharbanda, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same of his/her own free will for the purposes and consideration therein expressed.

\_\_\_\_\_  
Notary or Consular Officer

[SEAL]

FULBRIGHT & JAWORSKI L.L.P.  
600 Congress Avenue, Suite 2400  
Austin, Texas 78701

ASSIGNMENT

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, the undersigned, do hereby:

SELL, ASSIGN AND TRANSFER to GENZYME CORPORATION (the "Assignee"), having a place of business at 500 Kendall Street, Cambridge, Massachusetts 02142, their entire right, title and interest for the United States and all foreign countries in and to any and all improvements which are disclosed in the application for United States Letters Patent, Serial No. **10/553,028** which has been filed on **October 11, 2005** and is entitled "**MODULATION OF MUC1 MEDIATED SIGNAL TRANSDUCTION**", is a 371 Nationalization of PCT/US2004/011195 filed April 12, 2004 which claims priority to US Provisional Application No. 60/524,188 filed November 21, 2003, which claims priority to US Provisional Application No. 60/502,111 filed September 11, 2003, which claims priority to US Provisional Application No. 60/475,595 filed June 4, 2003, which claims priority to US Provisional Application No. 60/467,728 filed May 2, 2003, which claims priority to US Provisional Application No. 60/462,111 filed April 11, 2003, such application and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such improvements; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such improvements; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such improvements to the Assignee;

WARRANT AND COVENANT that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been or will be made to others by the undersigned, and that the full right to convey the same as herein expressed is possessed by the undersigned;

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such improvements; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such improvements and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such improvements in the Assignee, and for securing, maintaining and enforcing proper patent protection for such improvements;

TO BE BINDING on the heirs, assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Name: Albert A. Jecminek

STATE OF \_\_\_\_\_  
COUNTY OF \_\_\_\_\_

BEFORE ME, the undersigned authority, on this \_\_\_\_ day of \_\_\_\_\_, 2007 personally appeared Albert A. Jecminek, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same of his/her own free will for the purposes and consideration therein expressed.

\_\_\_\_\_  
Notary or Consular Officer

[SEAL]

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Name: Noaki Agata

BEFORE ME, the undersigned authority, on this \_\_\_\_ day of \_\_\_\_\_, 2007 personally appeared Naoki Agata, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same of his/her own free will for the purposes and consideration therein expressed.

\_\_\_\_\_  
Witness

Signature: *[Signature]*  
Name: Surender Kharbanda

Date: 6/02/08

STATE OF Massachusetts  
COUNTY OF Suffolk

BEFORE ME, the undersigned authority, on this 22nd day of June, 2008 personally appeared Surender Kharbanda, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same of his/her own free will for the purposes and consideration therein expressed.

*[Signature]*  
Notary or Consular Officer

[SEAL]



**ERLANDE K. JEAN-LOUIS**  
NOTARY PUBLIC  
COMMONWEALTH OF MASSACHUSETTS  
MY COMMISSION EXPIRES  
DECEMBER 11, 2009

FULBRIGHT & JAWORSKI L.L.P.  
600 Congress Avenue, Suite 2400  
Austin, Texas 78701